

## DEPARTMENT OF THE ARMY

SAVANIAN DISTRICT, CORPS OF ENGINEERS 1104 North Wostovor RLVD, Unit 9 ALBANY, CEORGIA 31707

MAY 29 2009

Regulatory Division 200900568

## JOINT PUBLIC NOTICE Savannah District/State of Georgia

The Savannah District has received an application for a Department of the Army Permit, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), as follows:

Application Number: 200900568

Applicant: Colonel Thomas Macdonald, Garrison Commander

Fort Benning, Georgia 31905

<u>Location of Proposed Work</u>: The project area is located approximately 5.5-miles southeast of the intersection of GA Hwy 27/1 and 1<sup>st</sup> Division Road along the east side of Jamestown Road, on the southern portion of Fort Benning. Coordinates for the center of the maneuver area are Latitude 32.280288° and Longitude 84.825705°.

Description of Work Subject to the Jurisdiction of the US Army Corps of Engineers: This project (69668) proposes to impact 12.33 acres of wetlands and 5,126.5 linear feet of stream for the construction and upgrade of training area infrastructure at the11, 247-acre Good Hope Maneuver Area for purposes of training of military personnel. Primary facilities include new training area roads/tank trails, existing training area roads repair, culverted and low water crossings, traffic signage, field training/staging area, and turning pads. New training tank trails and existing training area roads to be repaired total approximately 67.3-miles. This project is included in the Maneuver Center of Excellence Environmental Impact Statement.

## Mitigation Plan

Fort Benning is proposing to mitigate these impacts by purchasing 73.1 wetland credits and 20.704.7 stream credits from the Kolomoki Mitigation Bank.

### BACKGROUND

This Joint Public Notice announces a request for authorizations from both the US Army Corps of Engineers and the State of Georgia. The applicant's proposed work may also require local governmental approval.

### STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division, intends to certify this project at the end of 30 days in accordance with the provisions of Section 401 of the Clean Water Act, which is required by an applicant for a Federal Permit to conduct an activity in, on, or adjacent to the waters of the State of Georgia. Copies of the application and supporting documents relative to a specific application will be available for review and copying at the office of the Georgia Department of Natural Resources, Environmental Protection Division, Water Protection Branch, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354, during regular office hours. A copier machine is available for public use at a charge of 25 cents per page. Any person who desires to comment, object, or request a public hearing relative to State Water Quality Certification must do so within 30 days of the State's receipt of application in writing and state the reasons or basis of objections or request for a hearing. The application can also be seen in the Savannah District US Army Corps of Engineers, Albany Field Office, 1104 N. Westover Blvd, Unit 9, Albany, Georgia.

## US ARMY CORPS OF ENGINEERS

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army Permit.

<u>Cultural Resources Assessment:</u> The US Army Infantry Center, Fort Benning is the lead federal agency for this proposed action. Historic and Cultural Resources Surveys and Assessments were included in an MCOE EIS that is currently being performed by Fort Benning. As soon as the assessments are completed, a copy of the results will be forwarded to the appropriate offices for review. Fort Benning will meet all lead federal agency responsibilities pursuant to Section 106 of the National Historic Preservation Act, prior to any work occurring in waters of the US subject to the jurisdiction of the USACE.

Endangered Species: The US Army Infantry Center, Fort Benning is the lead federal agency for this proposed action. Threatened and Endangered Species Assessments were included in an MCOE EIS that is currently being performed by Fort Benning. As soon as the surveys and assessments are completed, a copy of the results will be forwarded to the appropriate offices for review. Fort Benning will meet all lead federal agency responsibilities pursuant to Section 7 of the Endangered Species Act, prior to any work occurring in waters of the US subject to the jurisdiction of the USACE.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The US Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the US Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Application of Section 404(b) (1) Guidelines: Project Purpose and need; Fort Benning, located approximately 80 miles southwest of Atlanta, is the home of the United States Army Infantry Center, 3rd Brigade 3rd Infantry Division, and various non-divisional and tenant units. The relocation of the USA Armor Center from Fort Knox, KY to Fort Benning will result in the stationing of approximately 14,000 additional personnel at the installation (including students). A majority of the facilities required for the Armor Center will be built at Harmony Church. New utility distribution systems and roadway upgrade are required to support the required facilities. Training area roadway improvements are required to provide safe and secure access into Fort Benning's training areas. Access to and within four major training maneuver areas is required to support mission training: OSUT Maneuver Training Area, Northern Maneuver Training Area, Good Hope Maneuver Training Area, and Southeastern Maneuver Training Area.

The objective of this project is to construct new and upgrade existing training area infrastructure roads and drainage to support increased access and training use. The current situation of the existing training roads of the Good Hope Maneuver Area does not support the increased trafficability and training throughput associated with tracked vehicle use. If this project is not provided, mission support to Fort Benning will be reduced. Safe and efficient access to existing training land will be limited.

Alternative Site Evaluation: With regard to the project site location, Fort Benning is limited in spaces that can accommodate a training area of this size. A search was conducted for alternative sites and only one available site was found that could accommodate this project. Because of the network of existing roads throughout the Good Hope Training area, it allowed for many of the proposed tank trails to be placed on the existing trails, therefore, minimizing the need for completely new road construction and reducing overall jurisdictional impacts. New trails will be constructed in areas where no existing trails are present. This area provided the best and only option for this training facility. Therefore, no other more feasible alternative sites exist on this military installation for this project.

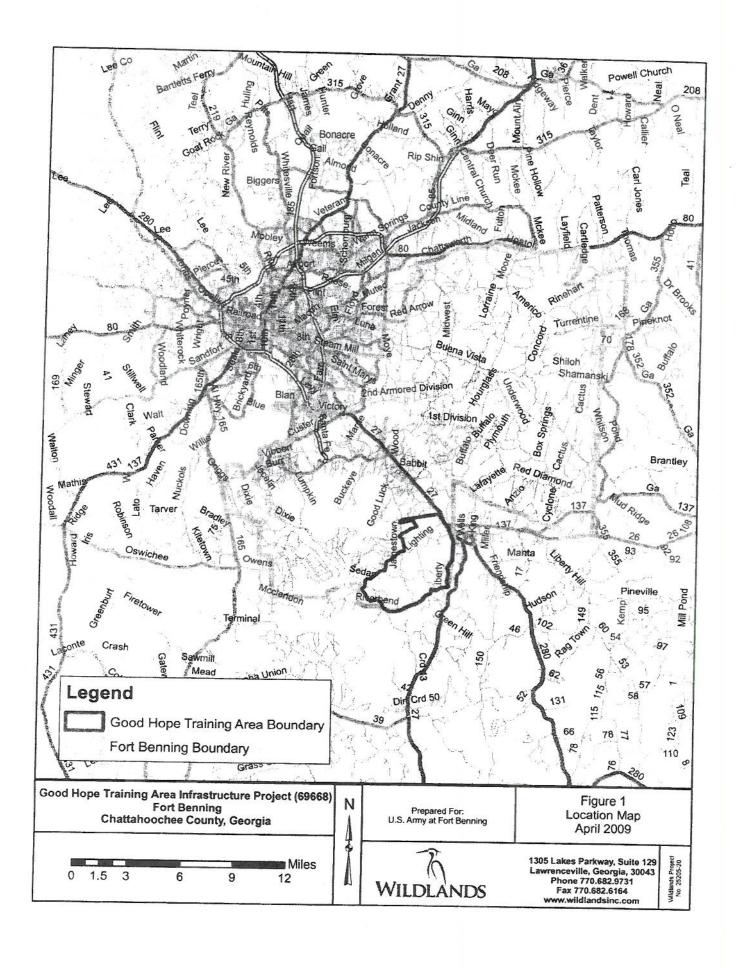
Avoidance and Minimization; This project site has numerous wetlands and streams throughout. It also has a number of existing roads and crossings. The existing roads and crossings would be used as much as possible. Some trails were relocated to avoid wetland areas. During the design process, the foot print of the project was adjusted and reduced to avoid wetland impacts. Approximately 12 acres of wetlands were avoided.

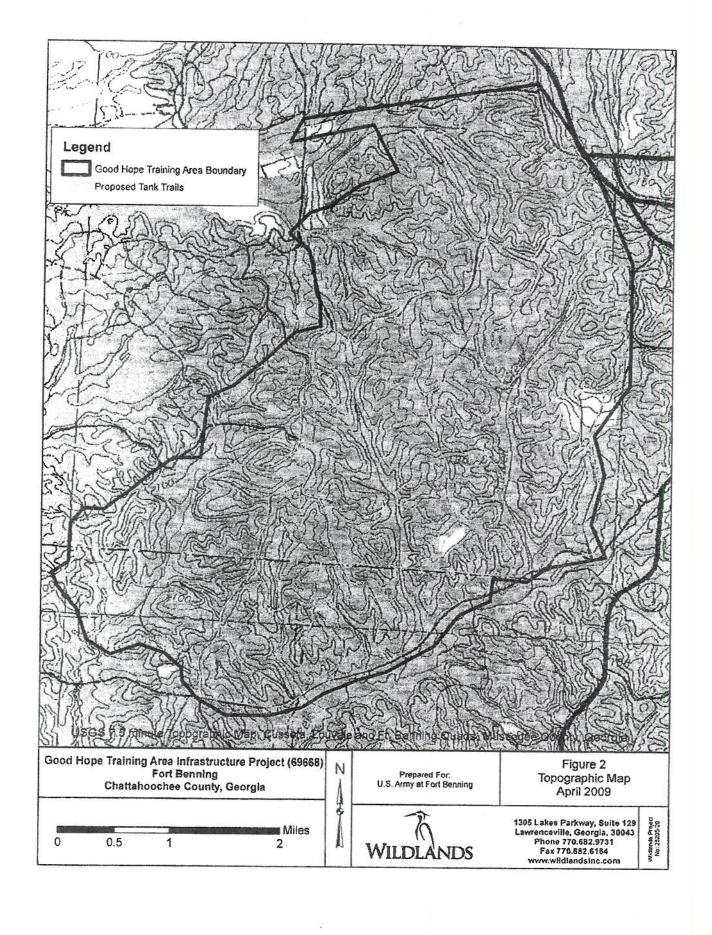
<u>Public Hearing</u>: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army Permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

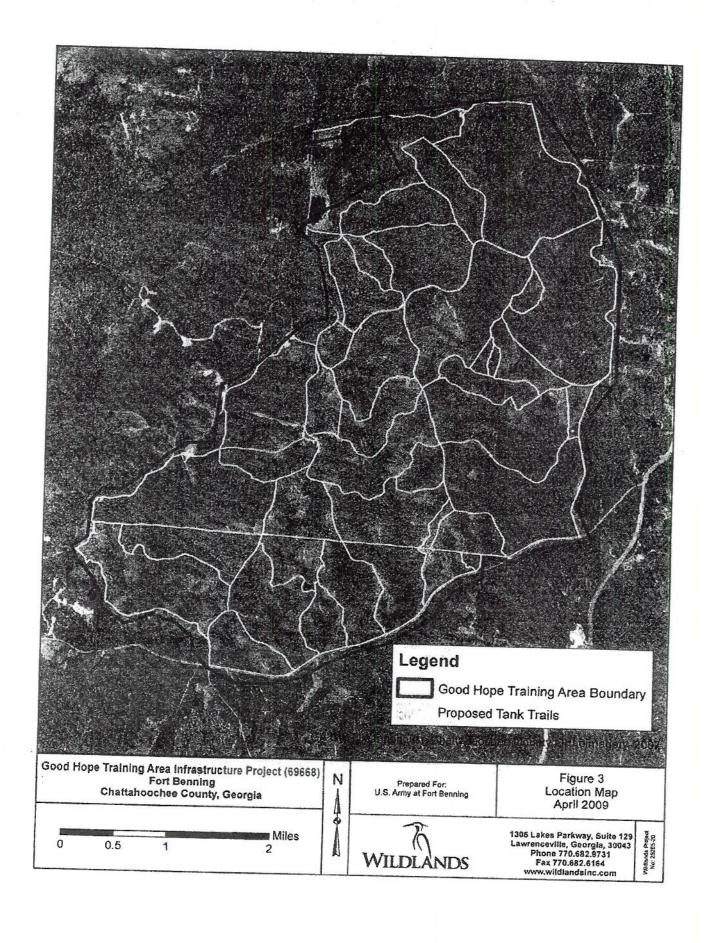
Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to the Commander, US Army Corps of Engineers, Savannah District, Albany Field Office, 1104 N. Westover Blvd, Unit 9, Albany, Georgia. 31707, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Thomas Fischer, at (229) 430-8566.

Enclosures







## Jurisdictional Wetland/Stream Impact Descriptions Good Hope Training Area Infrastructure Project (69688)

Area: 1
Location: Southwestern corner of range (map 12)
impacts: Stream 84 (I F) Western 9
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 2
Location: Southern tip of range (map 13)
Impacts: Stream 96 (IF) Water 1
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
(a) 15 (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c
Area: 3
Location: Southern tip of range (map 13)
Impacts: Stream 110 (LF) Wetland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 4
Location: Southeastern portion of range (map 14)
Impacts: Stream 102 (LF) Westerd
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
of I within the comdor will be piped
Area: 5
Location: Southeastern portion of range (map 14)
impacts: Stream 99 (LF) Wetland 0
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 6
Location: Southeastern portion of range (map 14)
Impacts: Stream 0 (LF) Wetland 0.67 (acres)
Type of Impact: All wetlands within the corridor will be filled
i with the confident will be filled
Area: 7
Location: Southeastern portion of range (map 14)
Impacts: Stream 0 (LF) Wetland 1067 (cores)
Type of Impact: All wetlands within the corridor will be filled
Area: 8
Location: Southeastern portion of range (map 14)
Impacts: Stream 96 (LF) Wetland 0.264 (acres)  Type of Impact: No existing nine all remaining stream with the
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped, all wetlands within the corridor will be filled
will be filled

	Area: 9
	Location: Southeastern portion of range (map 14)
	Impacts: Stream 0 (LF) Wetland 0.374 (acres)
	Type of Impact: all wetlands within the corridor will be filled
	The stands within the confidor will be filled
	Area: 10
	Location: Southern tip of range (map 13)
	Impacts: Stream 94 (I F) Western 1
	Impacts: Stream 94 (LF) Wetland 0 (acres)  Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
	be piped
	Area: 11
	Location: Southwestern corner of range (man 12)
	Impacts: Stream 175 (LF) Wetland 0 (acres)
	Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
	be piped.
	Area: 12
	Location: Southwestern corner of range (map 12)
	Impacts: Stream 137 (LF) Wetland 0 (acres)
	Type of Impact: No existing pipe all remaining of (acres)
	Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
	Area: 13
	Location: Southwestern corner of range (map 12)
	Impacts: Stream 74 (LE)
	Impacts: Stream 74 (LF) Wetland 0 (acres)
	Type of Impact: There is 124 LF of stream within the corridor and an existing pipe of 30
	feet. USACE allowance of 20 feet reduces impacts to 74 LF within corridor
	Area: 14
	Location: Northeastern portion of range (map 3)
	Impacts: Stream 13 (LF) Wetland 0 (acres)
	Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
	of the state of th
	Area: 15
	Location: Northeastern portion of range (map 3)
	Impacts: Stream 0 (LF) Wetland 0 (acres) Ephemeral 0.076 (acres)
	Type of Impact: Ephemeral stream impact, all wetlands within the corridor will be filled
	- Francisco Sacam impact, an wetlands within the corridor will be filled
	Area: 16
	Location: Northeastern portion of range (map 3)
	Impacts: Stream 42 (LF) Wetland 0 (acres)
	Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
	r bearing pipe, an remaining stream within the corndor will be piped
1	Area: 17
	Location: Northeastern portion of range (map 3)
I	mpacts: Stream 18.5 (LF) Wetland 0 (acres)
	Type of Impact: There is 55 LF of stream within the corridor and an existing pipe of 16.5
	feet. USACE allowance of 20 feet reduces impacts to 18 5 I E within a series

Location: Northeastern portion of range (map 3) Impacts: Stream85 (LF)
Impacts: Stream 85 (LF) Wetland 0 (acres)  Type of Impact: There is 120 LF of stream within the corridor and an existing pipe of 25 feet. USACE allowance of 20 feet reduces impacts to 85 LF within corridor  Area: 19 Location: Southeastern elbow of property (map 11) Impacts: Stream 110 (LF) Wetland 1.64 (acres)  Type of Impact: No existing pipe, all remaining stream within the corridor will be piped. All wetlands within the corridor will be filled  Area: 19A Location: Southeastern elbow of property (map 11) Impacts: Stream 0 (LF) Wetland 0.411 (acres)  Type of Impact: All wetlands within the corridor will be filled  Area: 20 Location: Southeastern elbow of property (map 11) Impacts: Stream 26 (LF) Wetland 0.514 (acres)  Type of Impact: There is 108 LF of stream within the corridor and an existing pipe of 62 feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A Location: Southeastern elbow of property (map 11) Impacts: Stream 59 (LF) Wetland 0 (acree)
feet. USACE allowance of 20 feet reduces impacts to 85 LF within corridor  Area: 19  Location: Southeastern elbow of property (map 11)  Impacts: Stream 110 (LF)
Area: 19 Location: Southeastern elbow of property (map 11) Impacts: Stream
Location: Southeastern elbow of property (map 11) Impacts: Stream
Impacts: Stream110(LF)
Impacts: Stream110(LF)
Area: 19A  Location: Southeastern elbow of property (map 11) Impacts: Stream 0 (LF)
Area: 19A  Location: Southeastern elbow of property (map 11) Impacts: Stream 0 (LF)
Location: Southeastern elbow of property (map 11) Impacts: Stream 0 (LF)
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Impacts: Stream0(LF)
Area: 20 Location: Southeastern elbow of property (map 11) Impacts: Stream 26 (LF)
Area: 20 Location: Southeastern elbow of property (map 11) Impacts: Stream 26 (LF) Wetland 0.514 (acres) Type of Impact: There is 108 LF of stream within the corridor and an existing pipe of 62 feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A Location: Southeastern elbow of property (map 11) Impacts: Stream 59 (LF) Wetland 0 (acres)
Location: Southeastern elbow of property (map 11) Impacts: Stream <u>26</u> (LF) Wetland <u>0.514</u> (acres) Type of Impact: There is 108 LF of stream within the corridor and an existing pipe of 62 feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A Location: Southeastern elbow of property (map 11) Impacts: Stream 59 (LF) Wetland 0 (acres)
Impacts: Stream 26 (LF) Wetland 0.514 (acres)  Type of Impact: There is 108 LF of stream within the corridor and an existing pipe of 62 feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A  Location: Southeastern elbow of property (map 11)  Impacts: Stream 59 (LF) Wetland 0 (acres)
Impacts: Stream 26 (LF) Wetland 0.514 (acres)  Type of Impact: There is 108 LF of stream within the corridor and an existing pipe of 62 feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A  Location: Southeastern elbow of property (map 11)  Impacts: Stream 59 (LF) Wetland 0 (acres)
feet. USACE allowance of 20 feet reduces impacts to 26 LF within corridor. All wetlands within the corridor will be filled  Area: 20A  Location: Southeastern elbow of property (map 11)  Impacts: Stream 59 (LF) Wetland 0 (acres)
Area: 20A  Location: Southeastern elbow of property (map 11)  Impacts: Stream 59 (LF) Wetland 0 (acres)
Area: 20A  Location: Southeastern elbow of property (map 11)  Impacts: Stream 59 (LF) Wetland 0 (acres)
Location: Southeastern elbow of property (map 11) Impacts: Stream 59 (LF) Wetland 0 (acres)
Location: Southeastern elbow of property (map 11) Impacts: Stream 59 (LF) Wetland 0 (acres)
Impacts: Stream 59 (LF) Wetland 0 (acres)
impacts. Sitean (1) (acres)
Type of Impact: No existing pine all remaining attentions and in the
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped.
Area: 21
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 93 (LF) Wetland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped.
Area: 22
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 0 (LF) Wetland 0.32 (acres) Ephemeral 0.022 (acres)
Type of Impact: Ephemeral stream and all wetlands within the corridor will be filled
Area: 23
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 104 (LF) Wetland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped.

Area: 24
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 84 (LF) Wetland 0 (acres) Ephemeral 0.004 (acres)  Type of Impact: No existing pine all remaining steers
Type of Impact: No original Wedand 0 (acres) Ephemeral 0.004 (acres)
pipo, an ionialinity stream within the comider will i
Ephemeral stream within the corridor will be filled.
Area: 25
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 103 (LE) White of lange (map /)
Impacts: Stream 103 (LF) Wetland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
See
Area: 26
Location: Eastern portion of middle of range (map 7)
impacts: Stream 106 (LF) Wetland
Type of Impact: No existing pine all remaining the distribution (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 26A
Location: Eastern portion of middle of range (map 7)
impacts: Stream 24 (LF) Wetland 0
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
90 mg = 1 mg
Area: 27
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 136 (LF) Wetland 0 (acres)
Type of Impact: No existing pine all wetland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 28
Location: Eastern portion of middle of range (map 7)
Impacts: Stream 0 (LF) Wetland 0 (acres) Ephemeral 0.308 (acres)
Type of Impact: Ephemeral stream within the corridor will be filled.
and the second s
Area: 29
Location: Northeastern portion of middle of range (map 5)
Impacts: Stream 104 (LF) Wetland 0 (acres)
Type of Impact: No existing pine all welland 0 (acres)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 30
Location: Middle of southern portion of range on eastern side (map 10)
impacts. Stream 0 (LF) Wetland 0.100
Type of Impact: All wetlands within the corridor will be filled
and corridor with oc tilled
Area: 31
Location: Middle of southern portion of range on eastern side (map 10)
Impacts: Stream 109 (LF) Wetland 0.703 (acres)
Type of Impact: All weelends with the Wetland 0.703 (acres)
Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all
remaining stream within the corridor will be piped

A was 22
Area: 32
Location: Middle of southern portion of range on eastern side (map 10)
impacts. Stiedill 02 (LF) Wetland 0.202
The or impact. There is 1121, For stream within the comid-
feet USACE allowance of 20 feet and an existing pipe of 30
feet. USACE allowance of 20 feet reduces impacts to 62 LF within corridor. All
wetlands within the corridor will be filled
Area: 33
Location: Middle of southern portion of range on eastern side (map 10)
Metland 0400 (
The of impact. All wellands within the corridor will be filled No
remaining stream within the corridor will be piped
and consider with the priped
Area: 34
Location: Western portion of middle of range (map 6)
Impacts: Stream 05 (LE)
Impacts: Stream 95 (LF) Wetland 0.519 (acres)
The of impact. All wellands within the corridor will be filled No aviation in
remaining stream within the corridor will be piped
Area: 35
Location: Western portion of middle of range (map 6)
impacts: Stream 100 (IF) Wotland
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
of the piped
Area: 36
Location: Middle of southern portion of range on eastern side (map 10)
impacts. Stream 0 (1.F) Wetland 0.012
Type of Impact: All wetlands within the corridor will be filled
within the corridor will be filled
Area: 37
Location: Middle of southern portion of range on western side (map 9)
Impacts: Stream 0 (LF) Wetland 0.19 (acres)
Type of Impact: All wotlands with it was a well and well
Type of Impact: All wetlands within the corridor will be filled
Area: 38
Location: Middle of southern portion of range on western side (map 9)
Wetland O
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 39
Location: Middle of southern portion of range on western side (map 9)
impacts. Stream 34 (LF) Wetland 0 (acres) Enhanced 0.051
Type of Impact: There is 103 LF of stream within the corridor and an existing pipe of 29
feet. USACE allowance of 20 feet reduces impacts to 54 LF within corridor.
Ephemeral stream within the corridor will be filled.
within the confider will be filled.

Area: 40
Location: northern portion of southwestern toe of range (map 8)
impacts: Stream 0 (LF) Wetland 0.602
Type of Impact: All wetlands within the corridor will be filled
wan oo med
Area: 40(eph)
Location: northern portion of southwestern toe of range (map 8)
Impacts: Ephemeral 0.055 (acres)
Type of Impact: Enhanced et a constant and a consta
Type of Impact: Ephemeral stream impact is filling.
Area: 41
Location: northern portion of southwestern toe of range (map 8)
impacts: Stream 162 (LF) Wetland 0.022 (comes)
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
be biped
Area: 42
Location: northern portion of southwestern toe of range (map 8)
Impacts: Stream 0 (LF) Wetland 0.057 (acres)
Type of Impact: Ephemeral stream impact is filling, all wetlands within the corridor will
be filled.
of miled.
Area: 43
Location: northern portion of southwestern toe of range (map 8)
Impacis: Stream 93 (LE) Western
Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 44
Location: Middle of southern portion of range on western side (map 9)
impacts: Stream 0 (LF) Wetland 0.08 (cares)
Type of Impact: All wetlands within the corridor will be filled
The sound of the s
Area: 45
Location: Middle of southern portion of range on western side (map 9)
Impacts: Stream 0 (LF) Wetland 0.097 (acres)
Type of Impact: All wetlands within the corridor will be filled
Type of impact. All wettailes within the common will be filled
Area: 46
Location: Middle of southern portion of range on western side (map 9)
Impacts: Stream 0 (LF) Wetland 0.147 (acres)
Type of Impact: All wetlands within the corridor will be filled
Area: 47
Location: Middle of southern portion of range on western side (map 9)  Impacts: Stream 61 (LF) Wetland 0.305 (acres)

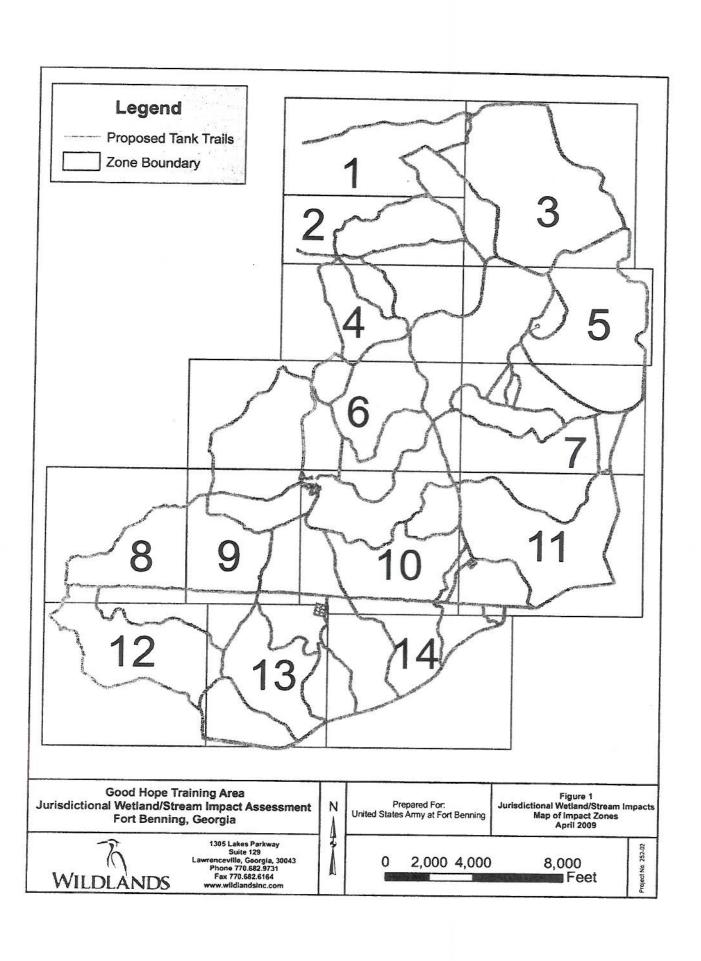
within the corridor and an existing pipe of 20 feet. USACE allowance of 20 feet reduces impacts to 61 LF within corridor. Area: 47A Location: Middle of southern portion of range on eastern side (map 10) Wetland 0.096 (acres) Impacts: Stream \_\_\_\_ 0 \_\_\_ (LF) Type of Impact: All wetlands within the corridor will be filled. Area: 48 Location: Middle of southern portion of range on eastern side (map 10) Wetland 0.004 (acres) Impacts: Stream 106 \_\_(LF) Type of Impact: No existing pipe, all remaining stream within the corridor will be piped Area: 49 Location: Middle of southern portion of range on eastern side (map 10) Impacts: Stream 99 (LF) Wetland 0.296 (acres) Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all remaining stream within the corridor will be piped Area: 49A Location: Middle of southern portion of range on eastern side (map 10) Impacts: Stream \_\_\_\_0 (LF) Wetland 0.143 (acres) Type of Impact: All wetlands within the corridor will be filled. Area: 50 Location: Southeastern elbow of property (map 11) Wetland \_\_\_\_\_ (acres) Impacts: Stream \_\_\_\_\_ 58\_\_\_ (LF) Type of Impact: There is 98 LF of stream within the corridor and an existing pipe of 20 feet. USACE allowance of 20 feet reduces impacts to 58 LF within corridor. Area: 51 Location: Southeastern elbow of property (map 11) Wetland 0.145\_ (acres) Impacts: Stream 98 (LF) Type of Impact: All wetlands within the corridor will be filled. Area: 52 Location: Southeastern elbow of property (map 11) Wetland Impacts: Stream 117 (LF) Type of Impact: No existing pipe, all remaining stream within the corridor will be piped Area: 53 Location: Northeastern section of range (map 1) 0.026 (acres) Wetland Impacts: Stream 20 (LF) Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all

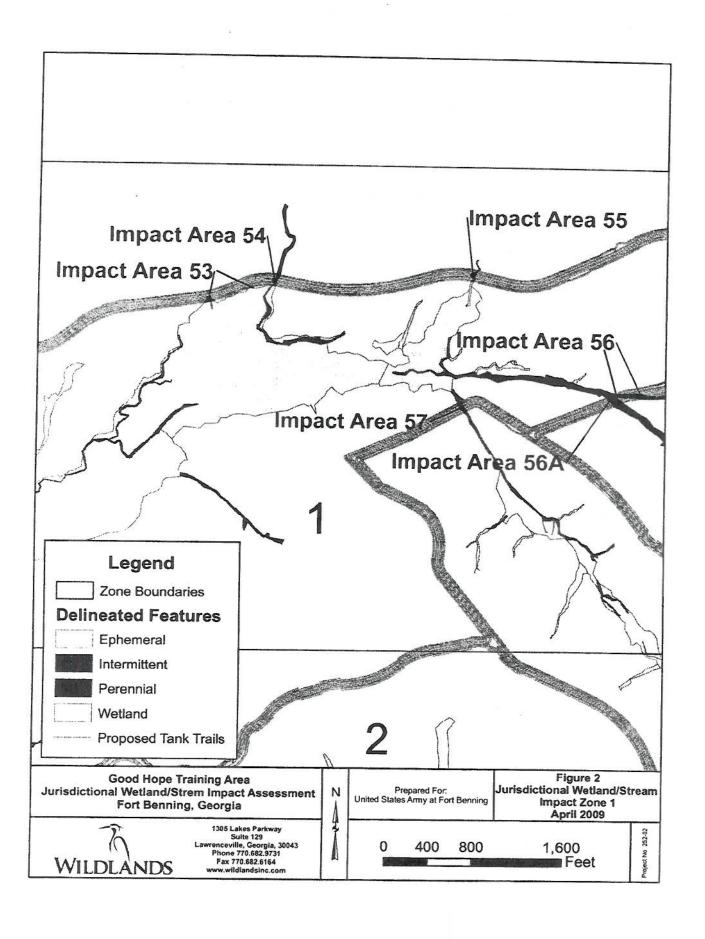
Type of Impact: All wetlands within the corridor will be filled. There is 101 LF of stream

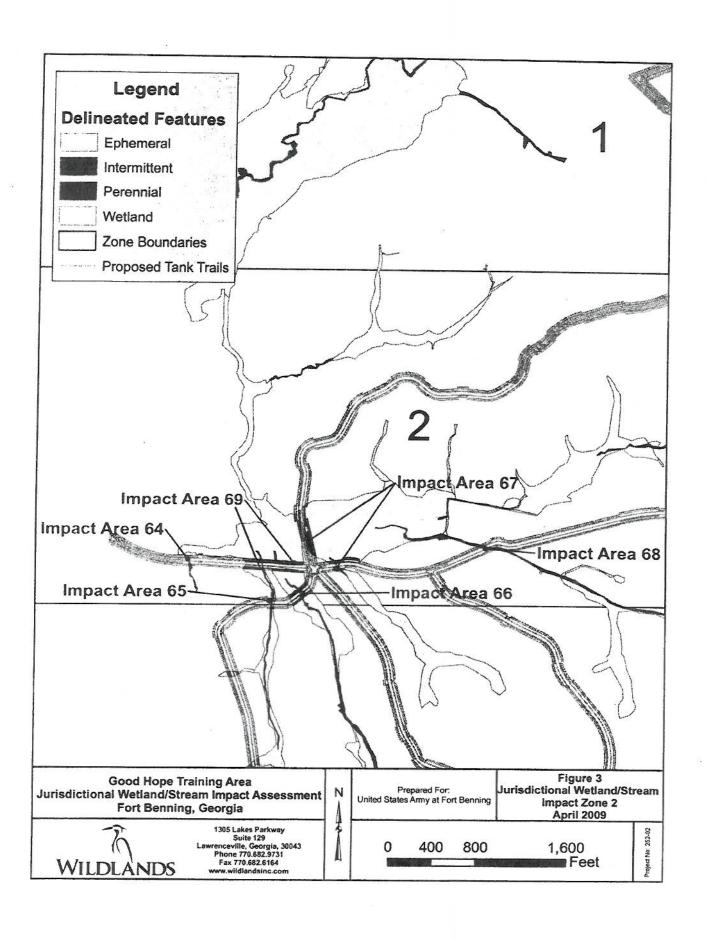
remaining stream within the corridor will be piped

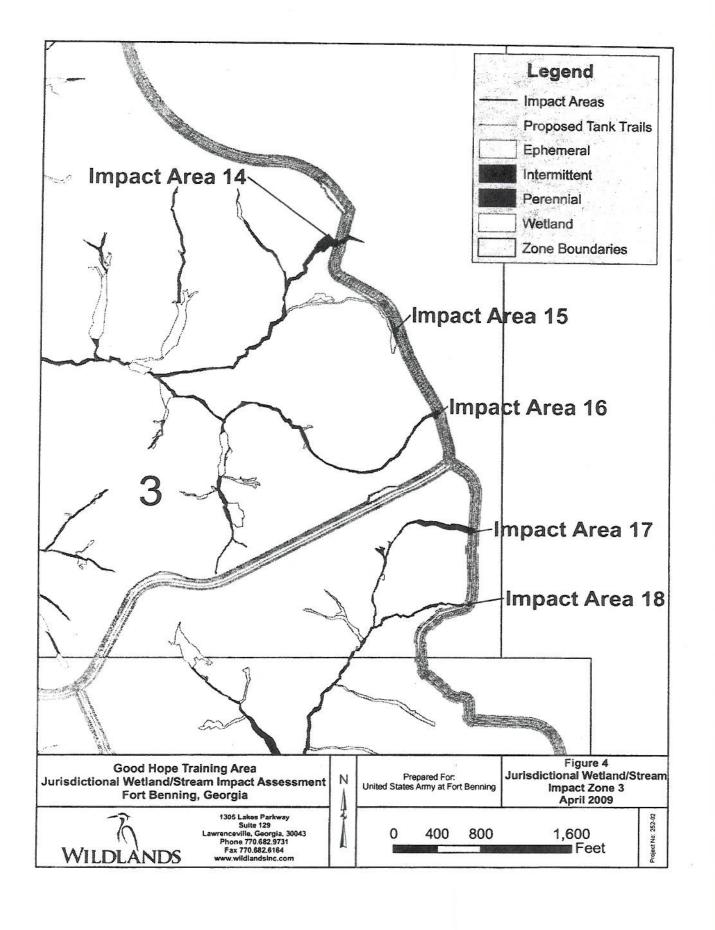
Area: 54 Location: Northeastern section of range (map 1)
Impacts: Stream 4 (LF) Wetland 0.007 (acres)  Type of Impact: There is 85 LF of stream within the corridor and an existing pipe of 61 feet. USACE allowance of 20 feet reduces impacts to 4 LF within corridor.
Area: 55  Location: Northeastern section of range (map 1)  Impacts: Stream 0 (LF)
Area: 56  Location: Northeastern section of range (map 1)  Impacts: Stream 443 (LF)
Area: 56A  Location: Northeastern section of range (map 1)  Impacts: Stream 18 (LF)
Area: 57  Location: Northeastern section of range (map 1)  Impacts: Stream 100 (LF) Wetland 0 (acres)  Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 58  Location: Western portion of middle of range (map 6)  Impacts: Stream 117 (LF)
Area: 59  Location: Northwestern portion of middle of range (map 4)  Impacts: Stream 98 (LF)
Area: 60  Location: Northwestern portion of middle of range (map 4)  Impacts: Stream 98 (LF) Wetland 0.011 (acres)  Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all remaining stream within the corridor will be piped
Area: 61 Location: Northwestern portion of middle of range (map 4)

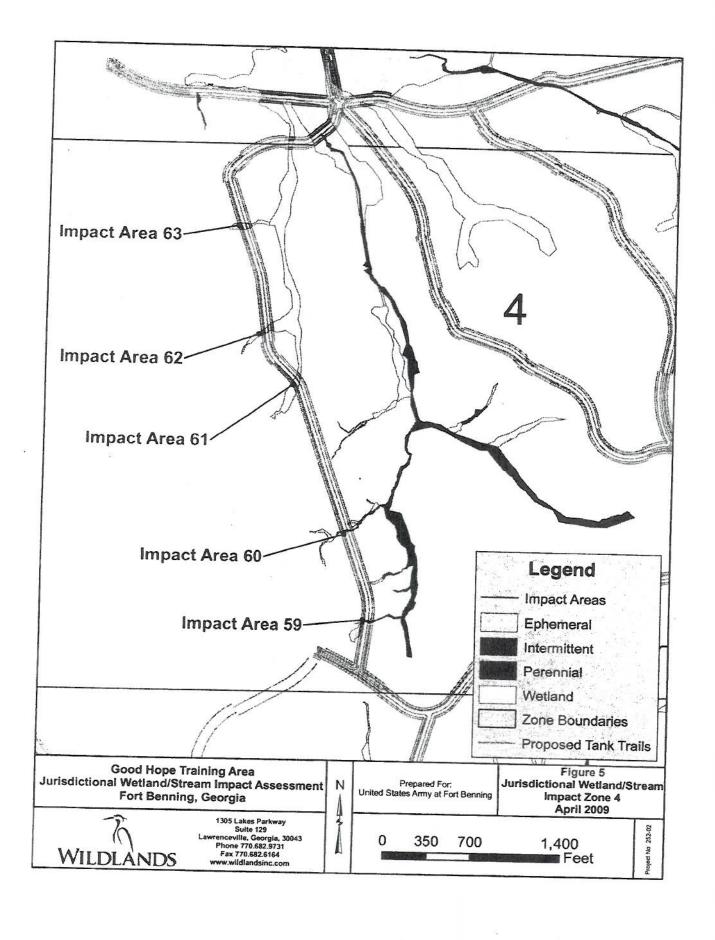
Impacts: Stream 0 (LF) Wetland 0.113 (acres) Type of Impact: All wetlands within the corridor will be filled.
Area: 62  Location: Northwestern portion of middle of range (map 4)  Impacts: Stream 0 (LF) Wetland 0.075 (acres)  Type of Impact: All wetlands within the corridor will be filled.
Area: 63  Location: Northwestern portion of middle of range (map 4)  Impacts: Stream 0 (LF)
Area: 64  Location: Northeastern section of range (map 2)  Impacts: Stream 31 (LF) Wetland 0 (acres)  Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all remaining stream within the corridor will be piped
Area: 65  Location: Northeastern section of range (map 2)  Impacts: Stream 81 (LF) Wetland 0.046 (acres)  Type of Impact: All wetlands within the corridor will be filled.
Area: 66  Location: Northeastern section of range (map 2)  Impacts: Stream 35 (LF) Wetland 0.46 (acres)  Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all remaining stream within the corridor will be piped
Area: 67  Location: Northeastern section of range (map 2)  Impacts: Stream 67 (LF) Wetland 0.425 (acres)  Type of Impact: All wetlands within the corridor will be filled.
Area: 68  Location: Northeastern section of range (map 2)  Impacts: Stream141(LF) Wetland0 (acres)  Type of Impact: No existing pipe, all remaining stream within the corridor will be piped
Area: 69  Location: Northeastern section of range (map 2)  Impacts: Stream 112 (LF) Wetland 0.701 (acres)  Type of Impact: All wetlands within the corridor will be filled. No existing pipe, all remaining stream within the corridor will be piped.

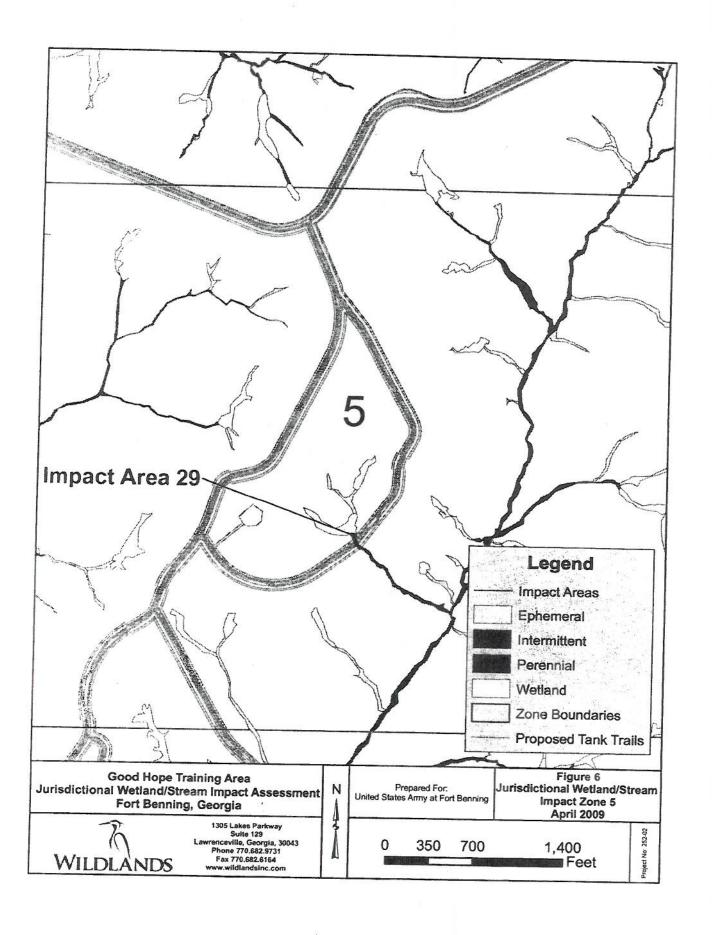


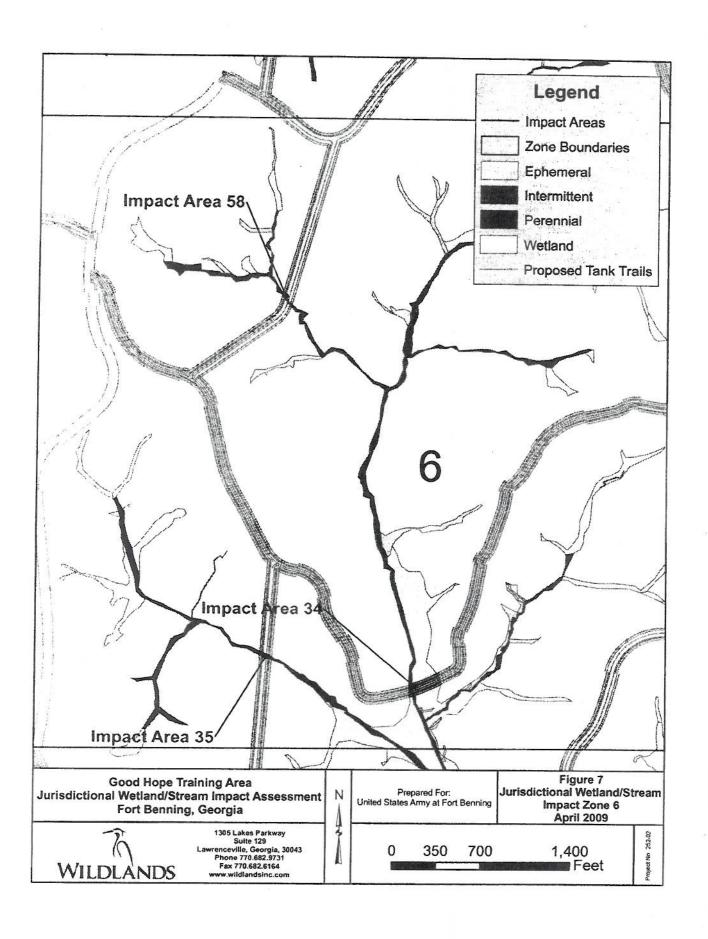


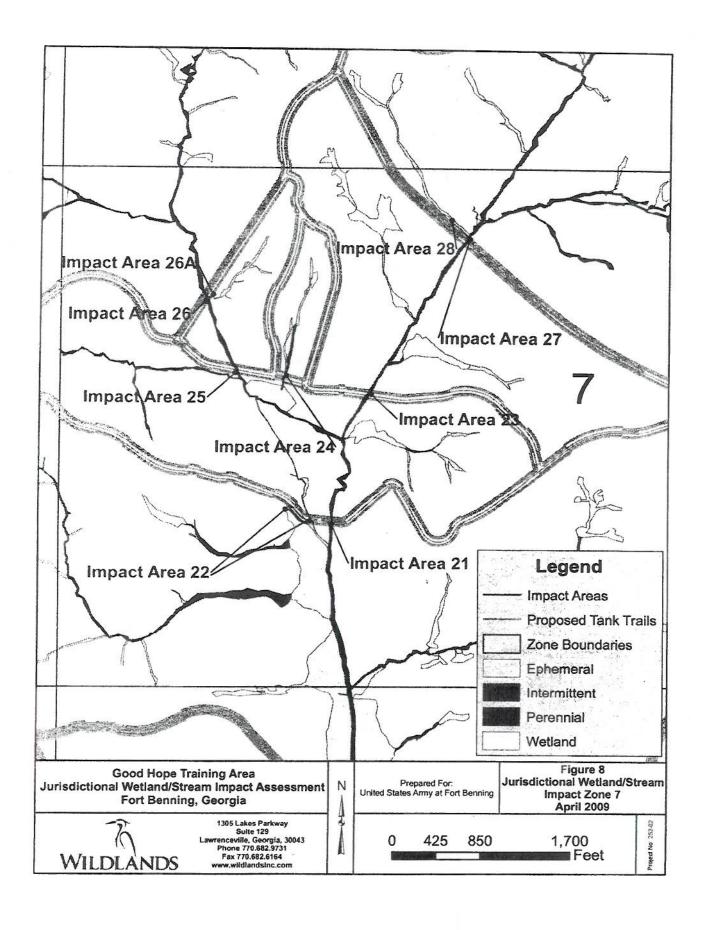


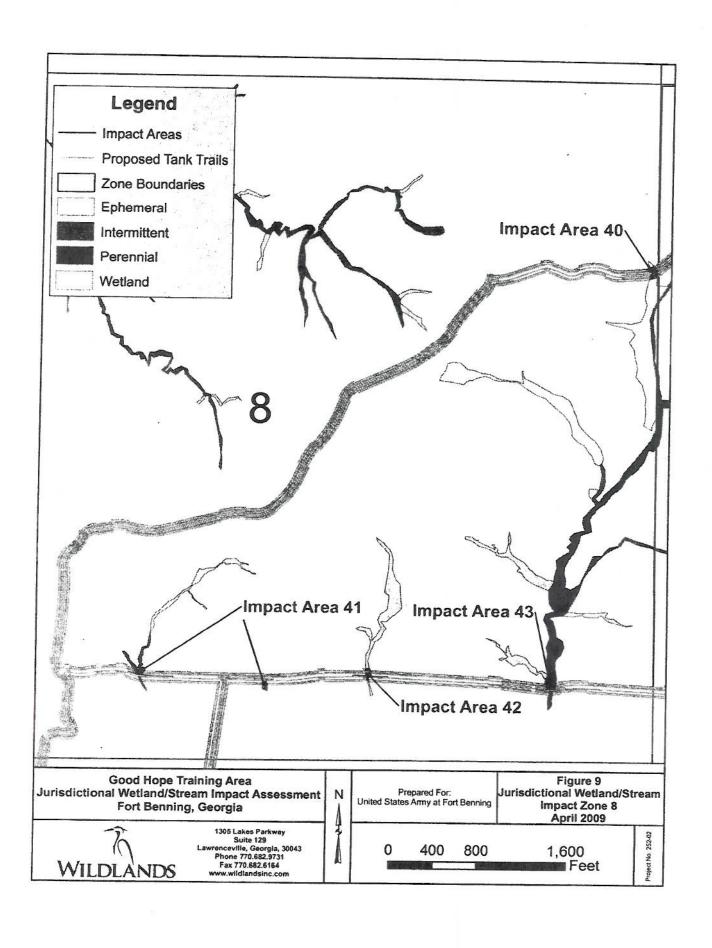


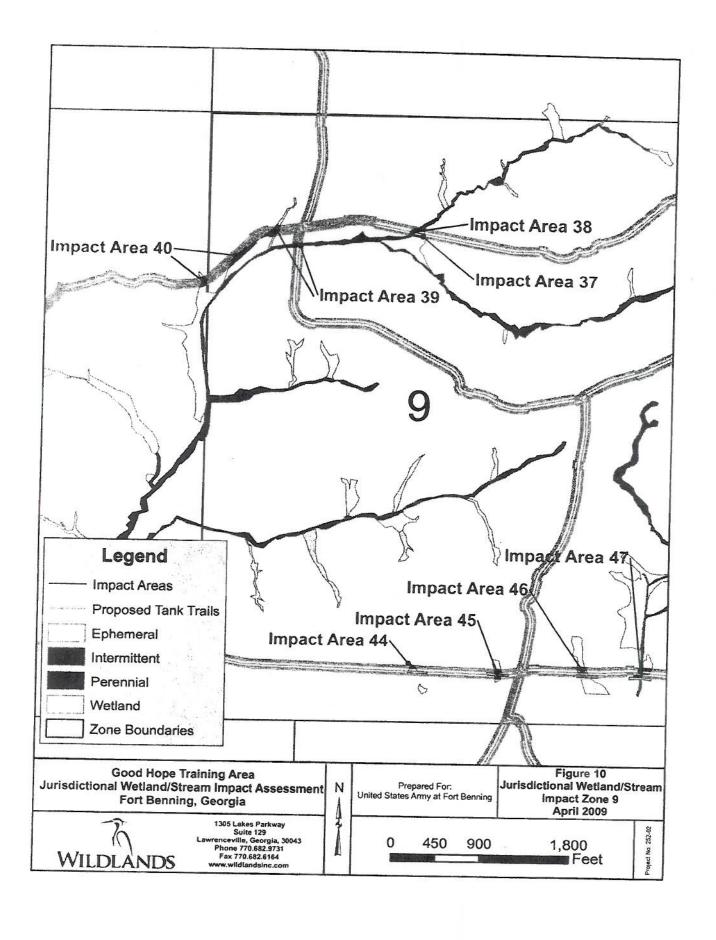


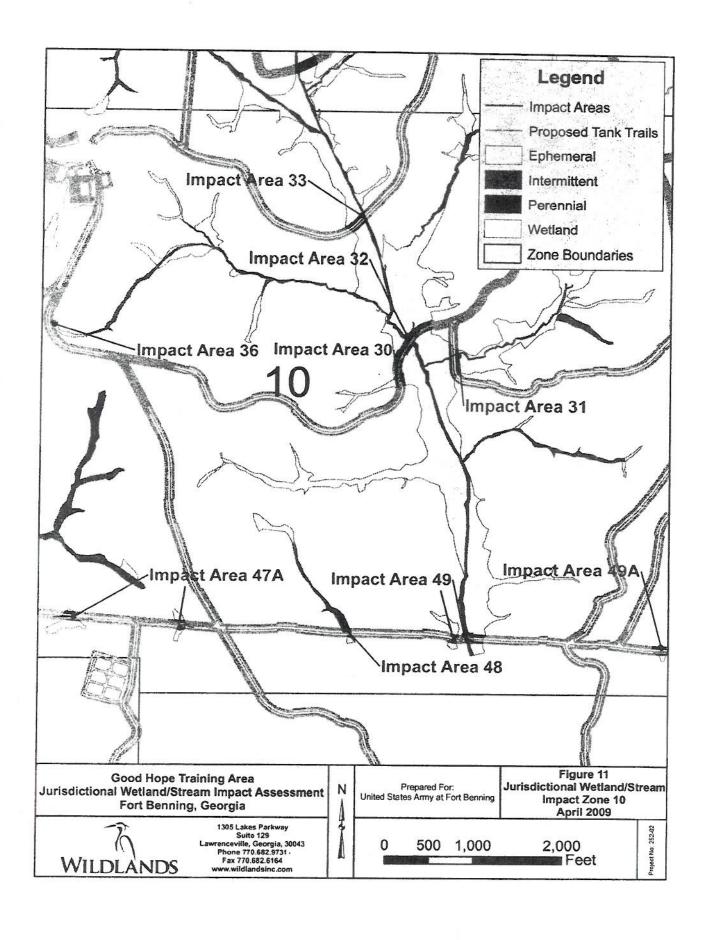


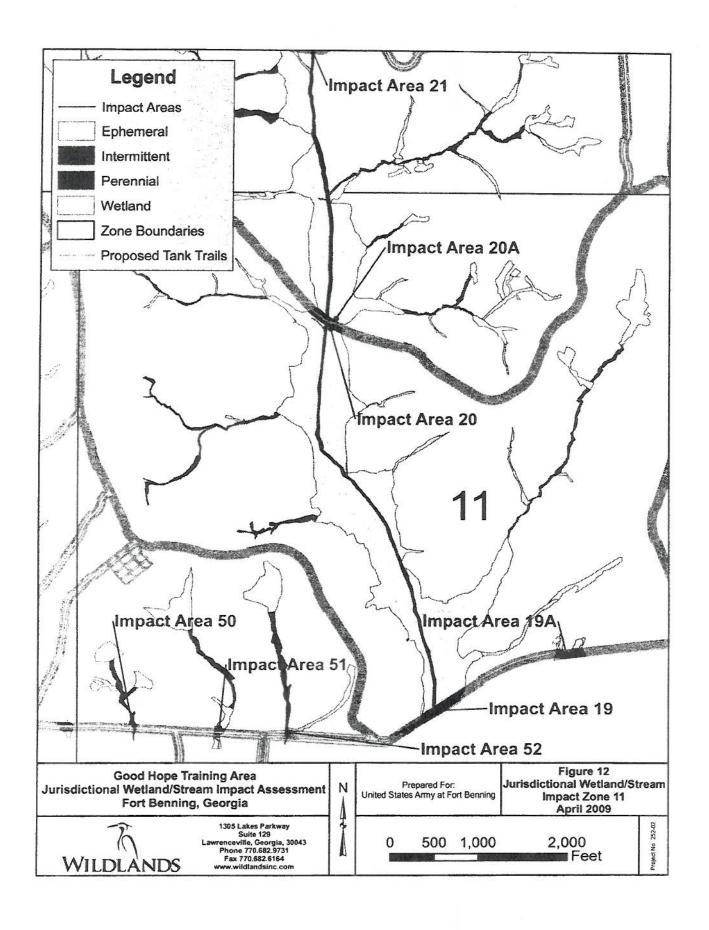


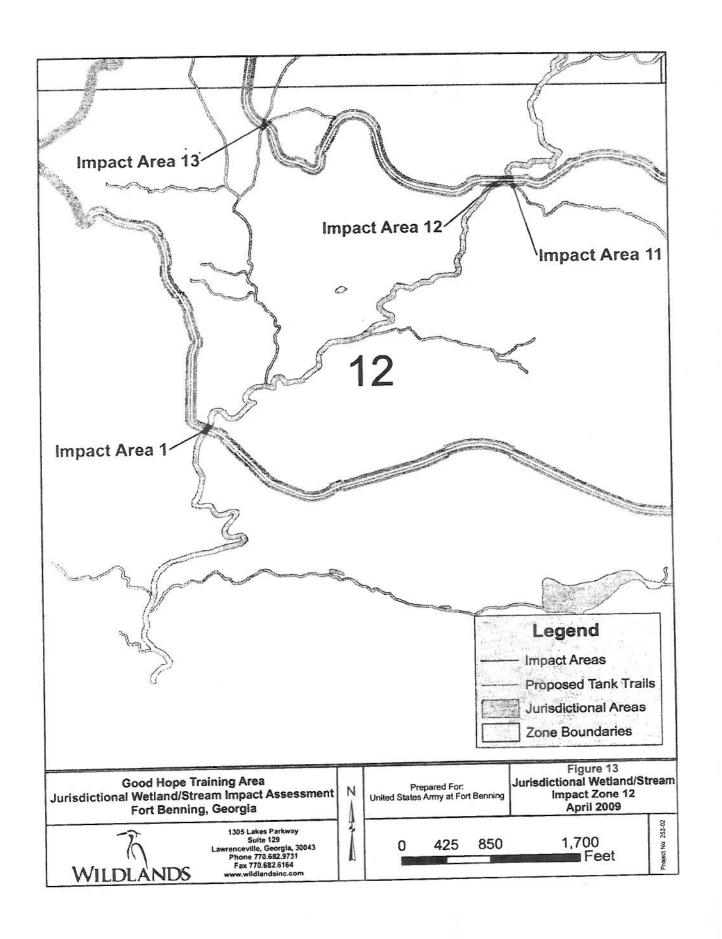


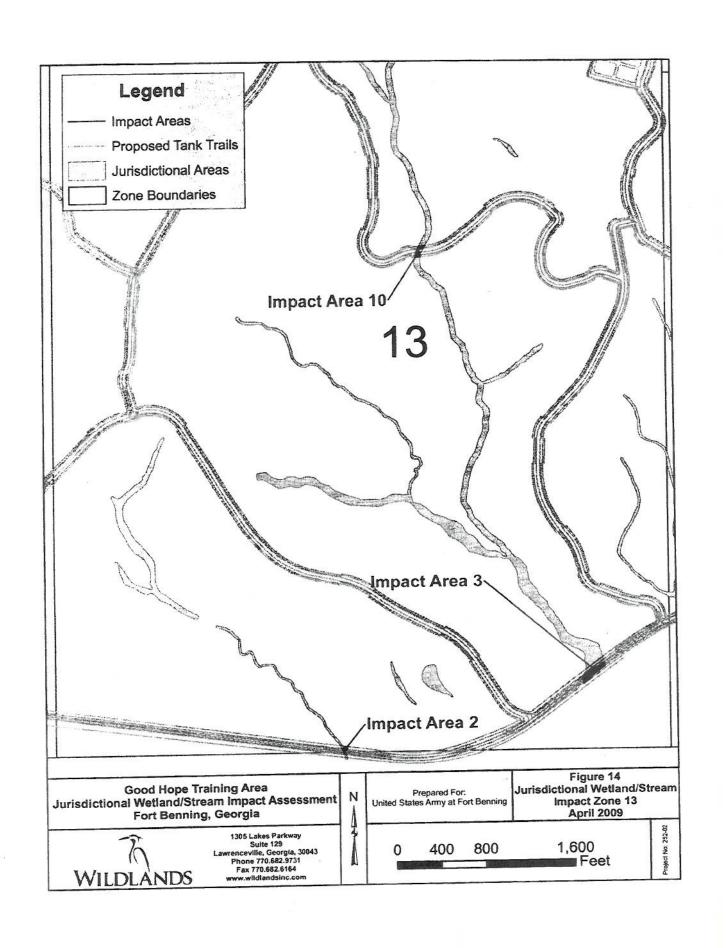


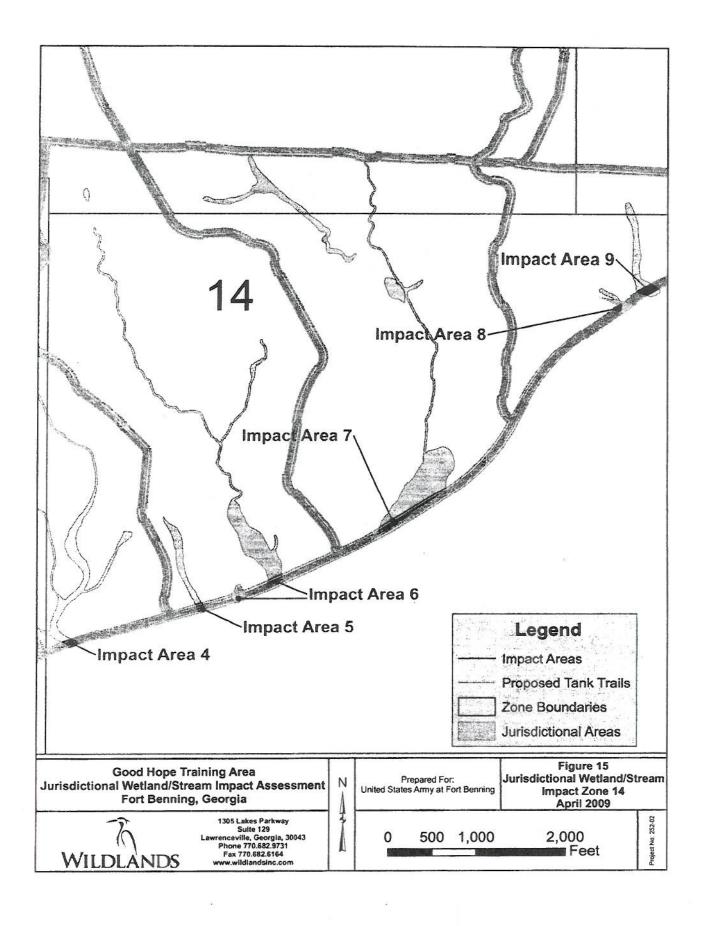




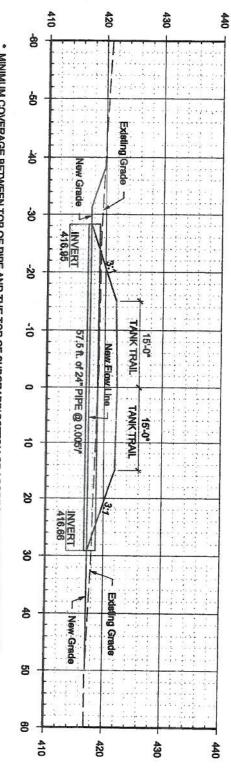








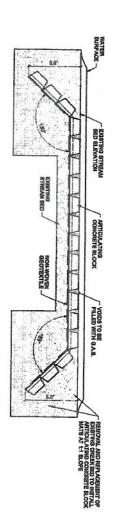
## TYPICAL CULVERT SECTION



\*\* PIPE INVERTS ARE BURIED 20% OF PIPE DIAMETER OR 6", WHICH EVER IS GREATER. \* MINIMUM COVERAGE BETWEEN TOP OF PIPE AND THE TOP OF SUBGRADE/BOTTOM OF AGGREGATE PAVEMENT SHALL BE 18".

# TYPICAL LOW WATER CROSSING

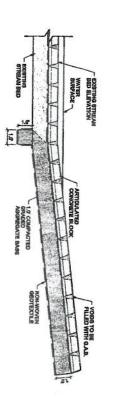
## TYPICAL ARTICULATING CONCRETE BLOCK TANK TRAIL STREAM CROSS SECTION



## GENERAL NOTES

- 1. ARTICULATED CONCRETE BLOCK (A.C.B.) WILL BE 4009 PBI CONCRETE.
- 2. ARTICULATED CONCRETE BLOCK MATS WILL ENTEND RITO THE CREEK BED AT A 11 BLOPEL MURIUM DEPTH OF THE ARTICULATED CONCRETE BLOCK MAT THE ARTO THE GROUND WILL BE NO LESS THAY AS FEET.
- ARTICULATED CONCRETE BLOCK MATS TOP SURFACE WILL MAINTAIN THE EXISTING STREAM BANK ELEVATION.
- 4. VOIDS SETWEDY THE ARTICULATED CONCRETE BLOCKS WILL BE FILLED WITH GAD. UNTIL NATURAL SED LOND FILLS THE VOIDS.

# TYPICAL ARTICULATING CONCRETE BLOCK TANK TRAIL STREAM CROSS SECTION



## GENERAL NOTES

- 1. ARTICULATED CONCRETE BLOCK (A.C.B.) WILL BE 4800 PBI CONCRETE.
- ALL YORDS DETYMBEN A.C.B.'S VIVL. BE FILLED WITH COMPACTED G.A.B., EXCEPT WHERE A.C.B. IS LOCATED IN THE STREAM FLOW.
- GRADE SHALL BE SET SO THAT THE SURFACE OF THE INSTALLED A.C.B. IS THE SAME AS THE EXISTING STREAM BED.
- 4. VOIDS BETWEEN THE ARTHOUGHTED CONCRETE BLOCKS WILL SE FILLED WITH GAB. UNTIL NATURAL SED LOAD FILLS THE VOIDS.

## GENERAL NOTES

TYPICAL ARTICULATING CONCRETE BLOCK TANK TRAIL STREAM CROSS SECTION

CONCRETE BLOCK

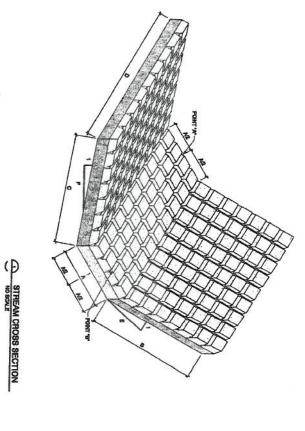
FILLED WITH GAB.

GEOTEXTILE GALB.

- 1. ARTIGULATED CONCRETE BLOCK (A.C.S.) WILL BE 4000 PSI CONCRETE
- 2. ALL YOURS BETWEEN A.C.B.'S WILL BE FILLED WITH COMPACTED GA.B.
- A GAS, UNDER A.C.B, WILL BE ONE POOT THICK AND COMPACTED AS STATED IN SPECIFICATION \* WITH A LAYER OF GEOTEXTILE UNDSPORTED.
- 4. G.A.B. AT STONE HANDENED TANK TRAIL WILL BE 1.5' THICK AS SHOWN IN DRAWING

## ARTIGULATED CONCRETE BLOC ALL VOIDS BETWEEN A.C.B.'8 W

# TYPICAL LOW WATER CROSSING



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TAC-83	HWIL	81+87.23	66.74	866,184,778	2 100 744 835	100	104 600	2	010	02 Page 010 Page 1	24 GC 1910 G10 TOWN	F	10	10	10
FMC-89	TRAIL C	78+2220	202 00	864,703,041	2100 304 040	100	COLUMN TOWN		( Ballion)	100,100,140,007	150.001 ZE 135 24	H	F	20	20
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